

Exhibit A

**IN THE UNITED STATES BANKRUPTCY COURT
FOR THE DISTRICT OF DELAWARE**

In re:	Chapter 11
FTX TRADING LTD., <i>et al.</i> , ¹	Case No. 22-11068 (JTD)
Debtors.	(Jointly Administered)

**DECLARATION OF BENJAMIN ROTH IN SUPPORT OF OBJECTION AND
RESERVATION OF RIGHTS OF AUROS TECH LIMITED TO MOTION OF
DEBTORS TO ESTIMATE CLAIMS BASED ON DIGITAL ASSETS**

I, Benjamin Roth, hereby declare, under penalty of perjury, as follows:

1. I am the co-founder and Chief Investments Officer at Auros Tech Limited (“Auros”), an algorithmic trading and market making firm operating in the digital asset markets. Auros has a team of seventy (70) people spread across all major time zones operating the Auros trading algorithms 24/7/365.

2. My professional career spans 23 years as a trader and portfolio manager, having worked at some of the world’s largest proprietary trading firms and hedge funds, prior to founding Auros in 2019. During my time managing large portfolios and trading positions at these firms and at Auros, I have gained a deep understanding of market structure, derivative pricing, derivative contract specifications and derivative settlement/maturity best practices. I have experienced multiple market cycles over this time and have seen and traded many types of products referencing instruments from all major asset classes.

3. I submit this declaration (“Declaration”) in Support of Auros’ Objection to the *Motion of the Debtors to Estimate Claims Based on Digital Assets* [D.I. 5202] (the “Estimation Motion”).

¹ The last four digits of FTX Trading Ltd.’s tax identification number are 3288. Due to the large number of debtor entities in these Chapter 11 Cases, a complete list of the Debtors and the last four digits of their federal tax identification numbers is not provided herein. A complete list of such information may be obtained on the website of the Debtors’ claims and noticing agent at <https://cases.ra.kroll.com/FTX>.

4. Auros transacts billions of dollars per day across all major cryptocurrency exchanges and represents a significant percentage of total daily trading volume. Auros was consistently listed on the FTX volume leaderboard and regularly transacted hundreds of millions of dollars per day at FTX across more than 150 different spot and derivative instruments.

5. Auros was a customer of FTX for several years and had over 1,500 spots and futures open positions in its main and sub accounts at the time the exchange filed for bankruptcy.

6. Auros has strong objections to the way in which the Debtors have valued and settled the futures contracts. Notably, in suspending trading and settling all open derivative contracts, the Debtors have essentially created an accelerated settlement and de-listing event for all derivative instruments on the exchange. There is substantial precedent in traditional markets, crypto markets and importantly, on the FTX exchange itself, that dictates how the settlement process should work in such circumstances and the pricing source that open contracts should reference for this settlement. We note that the methodology adopted by the Debtors is at odds with best practice for derivative settlement across the crypto industry (as well as all traditional asset classes), is entirely inconsistent with the methodology used by FTX in all previous cases of accelerated settlement and de-listing, and results in a very large, incorrect and wholly inequitable value transfer amongst customers who owned open positions in the affected derivatives the exchange.

Background Information and contextualized mechanics of the markets.

7. There are two types of futures contracts at FTX – those with a maturity date (hereafter Conventional Futures) and those with no maturity date (hereafter Perpetual Futures). As Associate Professor Sabrina Howell attested in her *Declaration in Support of the Motion of Debtors to Estimate Claims Based on Digital Assets* dated December 27, 2023 [D.I. 5203]

(“Howell Declaration”), Conventional Futures will converge to their spot price at the maturity date, whilst Perpetual Futures use a periodic funding rate mechanism where the longs and shorts pay/receive funding payments to/from one another each hour. Howell Declaration at para. 31. Professor Howell, however, erred in paragraph 31 of her declaration by stating that “*the two parties to the contract make periodic payments depending on whose bet is paying off*” when in fact the payment is not determined by “*whose bet is paying off*” but rather by the premium/discount of the Perpetual Future mark price versus the **spot index** it is tied to. Howell Declaration at para. 31. Moreover, it is the magnitude of divergence of the Perpetual Futures trading price from its spot index price anchor (and the consistency of this divergence) that determines the periodic funding, not anything to do with which party’s “*bet is paying off*”. Howell Declaration at para. 31.

8. The above point is critical, because it is this anchoring mechanism that ensures the Perpetual Futures price will always gravitate towards its spot anchor and there is a constant force of convergence between the two. Should the Perpetual Futures price stray too far from the spot index (and stay there for too long), then the periodic funding payments made from the “wrong” side to the “right” side will be material, thereby incentivizing market participants to build positions on the “right” side of the trade and move the contract back towards its spot price anchor. This mechanism is extremely powerful and history has shown that Perpetual Futures rarely trade materially above or below their spot index for an extended period of time. On the rare occasions that this does occur, those taking the “right” side of the trade get paid significant ongoing funding for as long as the Perpetual Futures contract remains dislocated from spot index, then they also enjoy the subsequent convergence of this Perpetual Future when that eventually occurs.

9. This very point is specifically highlighted by Professor Howell at footnote 38.

“... *perpetual futures have funding payments every hour. Specifically, every hour, we measure the 1 hour TWAP of the*

*perpetual future and the 1 hour TWAP **of the underlying index**”*
[emphasis added]

Howell Declaration at para 31, fn 38.

10. Furthermore, FTX employed this very practice in the delisting of Perpetual Futures from their exchange. For example, when they delisted Anchor (ANC) they explained the procedure as follows:

*“ANC-PERP will conduct delivery settlement based on its one-hour time-weighted average price **of the index price** (1-hour TWAP)”*

<https://web.archive.org/web/20221201035952/https://help.ftx.com/hc/zh-cn/articles/908628711060-%E5%85%B3%E4%BA%8ETerra-Classic%E7%9A%84%E6%9C%8D%E5%8A%A1%E6%9B%B4%E6%96%B0>

11. Similarly, when FTX delisted LUNA they also followed the same procedure:

*“LUNA-PERP will cash-expire to a 1-hour TWAP **of its corresponding index price**.”*

<https://web.archive.org/web/20221202153130/https://help.ftx.com/hc/en-us/articles/6258482308372>

12. The calculation of index prices was outlined on the FTX Crypto Derivatives Exchange website:

<https://web.archive.org/web/20210320175309/https://help.ftx.com/hc/en-us/articles/360027668812-Index-Calculation>

13. This practice is common at other exchanges. For example on Binance’s website: (<https://www.binance.com/en/support/faq/delisting-of-futures-contracts-dd60dfbf654d4055aa6b217ea6d5ddba>) it explains:

*“During the last hour on the cessation of the trading date, the mark price of the delisted asset will be calculated as the **average of the price index** every second over the last hour before cessation, i.e., a total of 3,600 mark price.”*

14. Conventional Futures are somewhat simpler to understand given that there are no periodic payments made between the parties and instead, there is a defined time at which

the contracts will mature. At the maturity date and time, the Conventional Future will expire and the exchange will calculate a settlement price at which that expiration will occur. All long and short positions will be closed at this price and the contract will cease to exist. Importantly, the settlement price calculation at FTX (and at all other crypto exchanges for similar futures contracts) always references the spot index. Again, this process was similarly explained on the FTX Crypto Derivatives Exchange with respect to Conventional Futures at the following link:

<https://web.archive.org/web/20210324040436/https://help.ftx.com/hc/en-us/articles/360027668752-Settlement-Delivery>

“Settlement is the time when quarterly futures positions close down and are marked to the settlement price of the underlying index.”

15. FTX even provides a worked example in the above link where they outline the settlement procedure and make specific reference to the BTC Index (which is the spot index referenced in these BTC Conventional Futures contracts). Note that the traded price of the contracts themselves does not matter – it is the BTC Index that determines the settlement calculation for these contracts at maturity:

“Shortly after expiration, each futures position will be marked to the expiration price of the contract. All realized and unrealized PnL on quarterly futures will turn into collateral at this point.

For instance, say that you deposited \$10,000 of collateral and used it to buy 10 BTC quarterly futures. Say that prior to expiration your account had 10 BTC quarterly futures with a realized PnL of \$1,000, an unrealized PnL of \$100, and a mark price of \$5,000 for the BTC index. If the average price of the BTC index over the expiration period (2am to 3am UTC) was \$5,010, then after expiration ended your account would have:

*USD collateral: \$10,000 (old collateral) + \$1,000 (realized PnL) + \$100 (unrealized PnL) + 10 (number of BTC futures) * (\$5,010 - \$5,000) (difference between expiration and previous mark price) = \$11,200*

16. At no stage was the mark price or trading price of the futures contract itself ever considered as an input in the final settlement price calculation. In fact, the above formula

specifically makes reference to the mark price only insofar as to value the position and collateral ***prior to the settlement process*** – as soon as settlement begins, it is the TWAP of the BTC Index price that determines final settlement and subsequent value of the account once these derivative contracts are expired. This is consistent with traditional markets, where futures contracts will, with very few exceptions, never reference themselves for the purpose of settlement calculations but will instead reference the underlying instrument they are designed to track, thereby creating “convergence” between Conventional Futures and spot/index prices at maturity. This convergence is one of the keys to a well-functioning derivatives market – without the certainty of convergence at maturity (or in the case of Perpetual Futures, a very powerful ongoing incentive for market participants to create convergence) a derivatives market will not properly function. The primary mechanism used to ensure “convergence” is a well-structured, unbiased and robust expiration and settlement calculation.

17. There have been many occasions in crypto markets where Conventional Futures and Perpetual Futures maturity dates have in fact been accelerated and these contracts settled ahead of planned expiration dates. There are a number of reasons why this has occurred, however, by far the most common one is simply a decision by the exchange to de-list the instrument/s. Exchange de-listing events are not uncommon and there have been dozens of examples in recent years of crypto exchanges de-listing Conventional Futures and Perpetual Futures. There is ample precedent for how the exchanges handle these situations with several examples listed below from the 2 largest derivatives exchanges (Binance and OKX) as well as 14 different delisting events at FTX:

<https://web.archive.org/web/20220819072518/https://help.ftx.com/hc/en-us/articles/7131780991380>

<https://web.archive.org/web/20220513181050/http://help.ftx.com/hc/en-us/articles/6258482308372>

<https://web.archive.org/web/20220606150306/http://help.ftx.com/hc/en-us/articles/6753040861204>

<https://www.binance.com/en/support/faq/delisting-of-futures-contracts-dd60dfbf654d4055aa6b217ea6d5ddba>

[https://www.binance.com/en/support/announcement/binance-futures-will-delist-and-upda\[...\].m-solbusd-perpetual-contract-6723cf112ab943bb9db7542bf8e107f0](https://www.binance.com/en/support/announcement/binance-futures-will-delist-and-upda[...].m-solbusd-perpetual-contract-6723cf112ab943bb9db7542bf8e107f0)
<https://www.okx.com/help/okx-to-delist-several-margin-trading-pairs-and-perpetual-contracts>

18. These announcements, and the methodology used by each exchange when early-settling and de-listing futures contracts, all have one thing in common – the reference price used to calculate the final settlement of the Perpetual Futures and Conventional Futures contracts is a **Time Weighted Average Price of the Spot Index**. Importantly, the trading price of the futures contract itself, the mark price of the futures contract or anything else specific to the futures contract is not relevant when calculating the final settlement price. The way in which you achieve convergence in these derivative contracts is to ensure that **Spot Index** is the reference price used for settlement. Whether one uses a TWAP, single price at a fixed point in time or some other timing mechanism, is in this case, of lesser concern than the decision to use the correct pricing source in the first place.

Methodology in this Bankruptcy Case.

19. It is crucial that the methodology used to accelerate the maturity and settle all open futures contracts in this bankruptcy case is consistent with this precedent and general best practice in all derivatives markets across all asset classes. To depart from this well-established best-practice for no apparent good reason, would be non-sensical.

20. It is unclear from the filings why the Debtors and Professor Howell have chosen to use the futures mark price at the petition time as the settlement price for each individual futures contract, as they did not make any arguments for or against any methodology, however, given the fact that FTX has accelerated the settlement and de-listed many futures contracts in the past, and since there is a well-established mechanism that is broadly adopted by all major

exchanges in this industry for performing this exercise, we see no good reason why the court should allow the Debtors to use a completely different methodology; and we see no benefit for creditors in departing from a known, transparent and fair methodology that has been effective in the past.

21. Furthermore, at the petition date, FTX was, by broad agreement of most market participants, a non-functioning exchange. The pricing of derivative contracts at FTX was substantially dislocated from broad market prices, volumes had fallen significantly due to many customers ceasing activities on the exchange and many participants (including us) were having trouble even accessing the exchange, with exchange API connectivity displaying significant latency and reliability issues. The mark prices of futures contracts on FTX at petition time were in some cases hundreds of percentage points dislocated from broad market prices and in most other cases materially different to Index prices and the price of similar derivatives at other exchanges. To put this into perspective, it is extremely rare to observe prices of similar/identical instruments on different exchanges diverging by more than 1% for any extended period of time. The sheer magnitude of pricing dislocation at FTX at the petition time (which was orders of magnitude larger than 1%) is a clear indication that the instruments on this exchange simply had zero informational content and the exchange itself was no longer functioning properly and efficiently. This is precisely why the methodology outlined on the FTX Crypto Derivatives Exchange website (referred above) is so important. The referencing of other properly functioning exchanges in determining the spot index price is the only reasonable approach to determine the true and fair price for such derivative contracts. It is also the only methodology that participants subscribed to when using the FTX Crypto Derivatives Exchange and it is the commonly used methodology for settling derivative contracts across the entire industry.

22. The decision by the Debtors to use any other methodology as the source of truth to settle hundreds of millions of dollars of open futures positions, and in doing so to diverge

from their well-established practice of using spot index prices, is extremely troubling and we strongly object to this proposal.

23. The ramifications of the Debtors' proposal pertaining to the futures settlement methodology will be enormous for a number of customers – measuring into the 7 figures for many and potentially 8 figures for some. Note also that the Debtors' methodology does not change the value of the estate or increase the recovery for all creditors as a group - it simply re-allocates between creditors, but it does so unjustly and in an entirely inequitable manner that is inconsistent with all best practice for this type of event.

24. In future support of Auros's Objection, the *Declaration of Kevin Lu in Support of the Motion of Debtors to Estimate Claims Based on Digital Assets* dated December 27, 2023 [D.I. 5204] ("Lu Declaration") is more in keeping with best practices as it pertains to valuation methods.

25. Within the Lu Declaration, Mr Lu states in paragraph 41 and 42 [emphasis added]:

"41. During my review of the data, I detected significant spreads between prices on FTX and prices on the trusted exchanges during the time window immediately preceding and at the Petition Time. Several factors may have contributed to these divergences, such as market participants factoring in FTX's increasing insolvency risk as information about its financial instability spread, challenges in executing arbitrage efficiently, and the specific timing of FTX suspending withdrawals for certain spot assets.

42. For each of the FTX digital assets, I generate a unique set of candidate markets which are eligible for evaluation to be selected as a constituent market. Due to the phenomenon described above, the logic that I use to generate candidate markets is based on the principle of preferring to select markets on the trusted exchanges, which do not include FTX, then preferring to select markets on the low-rated exchanges if a particular digital asset does not trade on the trusted exchanges, and minimizing the selection of markets on FTX, to the extent possible."

Lu Declaration at paragraphs 41 and 42.

26. In other words, Mr Lu declares, and the Debtors agree, that the pricing of instruments on FTX was not at all reliable at the petition time and that a fairer more robust methodology must be employed to correctly value all of the assets on the exchange. He feels so strongly about this in fact, that even exchanges with a very low score on the Coin Metrics Trusted Exchange Framework are preferred over FTX, wherever possible.

27. It is inconceivable how one could reasonably argue that the prices of futures contracts on FTX, which in most cases were actually further dislocated from global markets than the spot prices correctly identified by Mr Lu above, are an appropriate pricing source with which to settle hundreds of millions of dollars' worth of open derivative contracts. This is especially true given that these futures contracts have **NEVER** been used as a reference price for settlement purposes in the past at FTX, nor are they mentioned as an eligible pricing source for settlement purposes anywhere in FTX's contract specs or exchange documentation, nor are any similar methods employed to settle derivatives contracts elsewhere within the industry.

28. Therefore, Auros makes the following simple proposal – all futures contracts (Perpetual and Conventional) must be settled at the same price that all spot instruments are being valued and settled at petition time.

29. What is happening here is a garden-variety accelerated settlement and de-listing event, therefore the rules of convergence must apply, and derivatives pricing must converge to spot pricing at the time of settlement.

30. This is the only sensible methodology to use here, and it is consistent with how all major crypto exchanges, and most importantly FTX themselves, have handled accelerated settlement and de-listing in the past.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

Dated: January 11, 2024

/s/ Benjamin Roth

Benjamin Roth